Claims

[c1] What is claimed is:

A noise reduction system for use with a vacuum generating device that includes an air turbine, to reduce the noise generated by the exhaust from the air turbine when used with an automatic cutting table comprising:

a main housing;

a first baffle and a second baffle including an air outlet;

an air stop connecting sleeve coupling said first baffle to set second baffle;

an exhaust housing coaxially coupled to the exhaust end of said second baffle;

noise reduction foam connected to the inside wall of said main housing and the inside wall of said exhaust housing;

said first baffle and said set second baffle mounted coaxially inside said main housing;

said first baffle having an inlet mounted to the exhaust of said air turbine and a plurality of circumferentially disposed apertures, said second baffle having a plurality of circumferentially disposed apertures;

wherein the exhaust air first flows into said first baffle and is dispersed through said first baffle apertures into said baffle main and directed into said second baffle through said second baffle apertures into the second baffle outlet within said exhaust housing, said exhaust housing having a at least one exhaust port.

[c2]

A noise reduction system for use as a vacuum generating device that includes an air turbine to reduce the noise generated by the exhaust from the air turbine comprising:

a main housing;

a baffle having a first portion and a second portion and a wall separating said first portion from said second portion;

an exhaust housing coupled to the exhaust end of said baffle;

means for reducing noise connected to the inside wall of said main housing and the inside wall of said exhaust housing;

said baffle mounted inside said main housing;

said baffle having an inlet mounted to the exhaust of said air turbine and a plurality of circumferentially disposed apertures in said first section and a

plurality of circumferentially disposed apertures in said second section;
said exhaust air flows into said baffle first section to the inlet and out through the first second apertures into the main housing and into the second section through the baffle apertures through the second section outlet into the exhaust housing;
said air during an 180 degree turn in said exhaust housing; and
means for air to exhaust from said exhaust housing in the direction of the air turbine and motor.

[c3] A noise reduction system for use with a vacuum generating device that include an air turbine to reduce the noise generated by the exhaust from the air turbine when used with an automatic cutting table comprising;
an air turbine having a vertically mounted exhaust duct;
a baffle mounted coaxially on top of said air turbine exhaust duct and having an inlet opening for receiving air into said baffle from said air turbine exhaust;
said baffle having a plurality of apertures and an end plug to prevent air from flowing out the end of the baffle;
a large cylindrical container mounted coaxially over said baffle surrounding said baffle on all sides;
said large container including a means for reducing noise distributed about its interior wall surface in strategically located areas;
said large container including an exhaust outlet directed to said air turbine whereby exhaust air cools the turbine and turbine motor.

[c4] A noise reduction system as in Claim 3, including;
said baffle including an expanded PVC structure having four flat sides each side having a plurality of apertures for air to exit into the chamber formed by the large surrounding container.

[c5] A noise reduction system as in Claim 3 wherein said means for reducing noise is a noise reduction foam fixed to the inside of said container walls.

[c6] A noise reduction system as in Claim 1, including:
said first baffle and said second baffle are cylindrical tubular in construction; and

said connecting sleeve includes tubular portions for coupling said first baffle to said second baffle.

[c7] A noise reduction system as in Claim 6, wherein:
said exhaust air is directed from the exhaust housing towards said air turbine and said electric motor for cooling purposes.